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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,138	06/25/2003	Vetrivel Ayyavu	03-0289	3430

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EXAMINER	
TRUJILLO, JAMES K	
ART UNIT	**PAPER NUMBER**
2116	

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/606,138	AYYAVU ET AL.	
	Examiner	Art Unit	
	James K. Trujillo	2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 June 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) *4,13 and 19-31* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3, 5-12 and 14-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *12082004* .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to the following patentably distinct species of the claimed invention:

I. Embodiment described in paragraph 11.

II. Embodiment described in paragraph 12.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 1 is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the

examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

During a telephone conversation with Peter Scott, Reg. No. 33,279 on 7 December 2004 a provisional election was made without traverse to prosecute the invention of species I, claims 1-3, 5-12 and 14-18. Affirmation of this election must be made by applicant in replying to this Office action. Claims 4, 13, and 19-31 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

2. The office acknowledges the receipt of the following and placed of record in the file: Submission of application dated 6/25/03

3. Claims 1-3, 5-12 and 14-18 are presented for examination. Claims 4, 13 and 19-31 are withdrawn from consideration.

Claim Objections

4. Claims 1 are objected to because of the following informalities:

a. As to claim 1, on line 3, "said" should be placed before "Serial" to avoid any lack of antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-3, 5-12, and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants Admitted Prior Art (AAPA) in view of Cortopassi et al., U.S. Patent 5,974,588.

7. As to claim 1, AAPA teaches power management for a Serial ATA interface comprising a first power saving mode (partial and slumber states, paragraphs 1 and 2).

AAPA does not disclose a method of automatic power management control comprising:

detecting an idle condition of the Serial ATA interface;

measuring the idle time of said Serial ATA interfaces when said Serial ATA is idle; and

placing said Serial ATA interface into a first power saving mode when said idle time is equal to a first value.

Cortopassi teaches a device having a method of automatic power management control comprising detecting an idle (predetermined time-out period of inactivity, a preset period of inactivity, or expiration of a timer) condition of the device (col. 7 lines 23-26, col. 8 lines 10-12 and col. 9 lines 59-65), measuring the idle time of the device when device is idle and placing the device into a first power saving mode (local standby, sleep mode or suspend modes) when said idle time is equal to a first value (a preset period of inactivity).

Cortopassi further teaches wherein the device is an interface for receiving user input. Cortopassi teaches that automatically entering power saving modes reduces power consumption (col. 2 lines 28-36). Cortopassi also would suggest automatically entering low power states would optimally reduce power consumption to those of ordinary skill in the art. In Cortopassi power is used only when activity requires power, to the extent possible. Therefore the system of Cortopassi optimally reduces power. While the invention of Cortopassi is directed toward a device that is a user interface, those of ordinary skill would recognize that the automatic entry into a power saving mode is applicable to any system or device having at least one power saving mode with a reasonable expectation of success.

It would have been obvious to one of ordinary skill in the art, having the teachings of Cortopassi and AAPA before them at the time the invention was made, to modify the entry of power saving mode of the Serial ATA interface disclosed by AAPA to include the automatic power management control taught by Cortopassi, in order to obtain a Serial ATA interface with automatic power control.

One of ordinary skill in the art would have been motivated to make this combination in order to reduce power consumption of the Serial ATA interface. Furthermore, this reduction of power would be optimal.

8. As to claim 2, AAPA together with Cortopassi taught the method according to claim 1 as described above. Cortopassi further teaches wherein said first power saving mode is a Partial power state (a local standby, col. 7 line 22 through col. 8 line 6).

9. As to claim 3, AAPA together with Cortopassi taught the method according to claim 1 as described above. Cortopassi teaches having a Slumber mode (sleep mode, col. 6-17) as a power

saving mode that uses less power than the Partial power mode state. AAPA together with Cortopassi do not disclose wherein said first power saving mode is a Slumber mode. However, it would have been obvious to one of ordinary skill in the art to further modify AAPA together with Cortopassi to change the first power saving mode to the Slumber mode. One of ordinary skill would have made this modification to further reduce power consumption of the interface.

10. As to claim 5, AAPA together with Cortopassi taught the method according to claim 1 as described above. AAPA together Cortopassi further teaches wherein said placing into a first power saving mode comprises issuing a request for said first power saving to a physical layer of said Serial ATA interface by hardware when said idle time is equal to said first value. Specifically, Cortopassi discloses that a request is sent for said power saving mode to a physical layer (specific devices are placed into a static state, col. 7 lines 23-26) by hardware (a controller 129 in figure 4 and col. 5 lines 36-46) when idle time is equal to said first value (a timeout period, col. 7 lines 23-27). As combined with AAPA, the physical layer would a physical layer with the Serial ATA interface corresponding to the physical layers associated with Partial and Slumber states disclosed by AAPA.

11. As to claim 6, AAPA together with Cortopassi taught the method according to claim 1 as described above. AAPA together with Cortopassi further teaches placing said Serial ATA interface into a second power saving mode when said idle time is equal to a second value, wherein said first power saving mode is a Partial power state, and said second power saving mode is a Slumber power state. Specifically, Cortopassi teaches a second power mode (sleep state, as set forth hereinabove) at another preset period of inactivity.

12. As to claim 7, AAPA together with Cortopassi taught the method according to claim 6 described above. One of ordinary skill will interpret that because the second power saving mode reduces power more than the first power saving mode in Cortopassi it would follow that the second value is greater than the first value.

13. As to claim 8, AAPA together with Cortopassi taught the method according to claim 6 as described above. AAPA together with Cortopassi taught wherein comprising a request for Slumber power state to a physical layer (most devices place in static states – Cortopassi, col. 8 lines 12-15) of Serial ATA interface by hardware (a controller 129 in figure 4 and col. 5 lines 36-46).

14. As to claim 9, AAPA together with Cortopassi taught the method according to claim 1 as described above. Cortopassi further teaches comprising de-asserting a power down request when said device is active (waking devices when activity is detected, figure 5). It would follow when combined with AAPA that the Serial ATA interface would do the same with each of its components.

15. As to claim 4 and 13, upon further consideration they appear to be associated with a non-elected species II from which the claims have been withdrawn. See embodiment in paragraph 12. Therefore, claims 4 and 13 are also withdrawn from further consideration.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Pat. Application No. 2003/0050103 to Tourrilhes et al. This reference teaches a communication interface with power management capabilities.

U.S. Pat. No. 6,791,942 to Jin. This reference teaches powering down a communications interface when no activity is detected.

U.S. Pat. No. 6,546,496 to Wang et al. This reference teaches a network interface card that reduces power consumption by adjusting the clocks of the card.

U.S. Pat. No. 6,000,003 to Allen et al. This reference teaches a power management system to power down certain portions of a communication interface circuit if no communication activity is detected for a prescribed period of time.

U.S. Pat. No. 5,511,203 to Wisor et al. This reference teaches system with power management control that enters power savings modes based on activity.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James K. Trujillo whose telephone number is (571) 272-3677. The examiner can normally be reached on M-F (7:30 am - 5:00 pm) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James Trujillo

December 9, 2004

LYNNE H. BROWNE
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